

WHAT IS CLAIMED IS:

1. A piezoelectric component, comprising:

a piezoelectric element;

a first elastic material covering at least a pair of end portions of the piezoelectric element, the pair of end portions including edge portions of the piezoelectric element;

a second elastic material covering the entire piezoelectric element and the first elastic material; and

an outer-cladding resin covering the entire circumference of the piezoelectric element covered by the second elastic material.

2. A piezoelectric component according to claim 1, wherein the piezoelectric component is substantially rectangular shaped.

3. A piezoelectric component according to claim 1, wherein the thixotropic index of the first elastic material in an unhardened state is larger than that of the second elastic material in an unhardened state.

4. The piezoelectric component according to Claim 1, wherein the thixotropic indexes of the first elastic material and the second elastic material in an unhardened state are respectively larger than about 1.7.

5. The piezoelectric component according to claim 1, wherein the first elastic material and the second elastic material are the same.

6. The piezoelectric component according to claim 1, wherein the first elastic material and the second elastic material are different.

7. The piezoelectric component according to claim 1, wherein the piezoelectric component comprises a piezoelectric trap component.

8. The piezoelectric component according to claim 1, wherein the piezoelectric substrate is polarized along the longitudinal direction of the major surfaces thereof.

9. The piezoelectric component according to claim 1, further comprising divided electrodes on both end portions of a first of the major surfaces of the piezoelectric substrate and a ground electrode disposed at the approximate center portion of a second major surface of the piezoelectric substrate.

10. The piezoelectric component according to claim 1, wherein the piezoelectric substrate vibrates in a thickness shear vibration mode.

11. The piezoelectric component according to claim 1, wherein the hardness of the second silicone rubber is equal to or less than about 28 in Shore Hardness A.

12. A method of manufacturing a piezoelectric component, comprising the steps of:

forming an unhardened first elastic material partially on at least a pair of end portions of a piezoelectric element, the pair of end portions including a edge portions of the piezoelectric element;

hardening the first elastic material;

forming an unhardened second elastic material on the entire circumference of the piezoelectric element and the first elastic material;

hardening the second elastic material; and

forming an unhardened outer-cladding resin on the entire circumference of the second elastic material covering the piezoelectric element and the first elastic material;
and

hardening the outer-cladding resin.

13. The method according to Claim 12, wherein the thixotropic index of the unhardened first elastic material is larger than that of the unhardened second elastic material.

14. The method according to Claim 12, wherein the thixotropic indexes of the unhardened first elastic material and the unhardened second elastic material are respectively larger than about 1.7.

15. The method according to Claim 13, wherein the thixotropic indexes of the unhardened first elastic material and the unhardened second elastic material are respectively larger than about 1.7.

16. The method according to Claim 12, wherein at least one of the first elastic material and the second elastic material is silicone rubber.

17. The method according to Claim 12, wherein the step of forming the first elastic material is performed by one of dropping the first elastic material by one of an iron and a dispenser and dipping the edge portion of the piezoelectric element into the first elastic material in a fluid state.

18. The method according to Claim 12, wherein the step of forming the second elastic material is performed by dipping the piezoelectric element into the second elastic material in a fluid state.

19. The method according to Claim 12, wherein the step of forming the outer-cladding resin is performed by dipping the piezoelectric element into the outer-cladding resin in a fluid state.

20. The method according to Claim 12, wherein the total thickness of first and second layers at the edge portions of the piezoelectric element is larger than the difference between the maximum contraction amount of the outer-cladding resin and the maximum contraction amount of the piezoelectric element.